



REFRIGERATOR

BOTTOM MOUNT FREEZER

MODEL NAME : RF4287H***
RFG28M***

SERVICE Manual

REFRIGERATOR



CONTENTS

1. PRECAUTIONS(SAFETY WARNINGS)	6
2. PRODUCT SPECIFICATIONS	10
3. DISASSEMBLY AND REASSEMBLY	26
4. TROUBLESHOOTING	55
5. PCB DIAGRAM	97
6. WIRING DIAGRAM	102
7. SCHEMATIC DIAGRAM	104
8. MODEL CODE TABLE	108

For the latest parts information, Please access to our service web site
(• North America : <http://service.samsungportal.com>)

Samsung Rs20crsv Service Manual Repair Guide

M Lipman



Samsung Rs20crsv Service Manual Repair Guide:

If you ally habit such a referred **Samsung Rs20crsv Service Manual Repair Guide** books that will present you worth, acquire the certainly best seller from us currently from several preferred authors. If you desire to witty books, lots of novels, tale, jokes, and more fictions collections are plus launched, from best seller to one of the most current released.

You may not be perplexed to enjoy every books collections Samsung Rs20crsv Service Manual Repair Guide that we will unconditionally offer. It is not something like the costs. Its not quite what you obsession currently. This Samsung Rs20crsv Service Manual Repair Guide, as one of the most enthusiastic sellers here will totally be in the middle of the best options to review.

https://crm.avenza.com/results/Resources/Download_PDFS/service_manual_for_mazda_tribute.pdf

Table of Contents Samsung Rs20crsv Service Manual Repair Guide

1. Understanding the eBook Samsung Rs20crsv Service Manual Repair Guide
 - The Rise of Digital Reading Samsung Rs20crsv Service Manual Repair Guide
 - Advantages of eBooks Over Traditional Books
2. Identifying Samsung Rs20crsv Service Manual Repair Guide
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Samsung Rs20crsv Service Manual Repair Guide
 - User-Friendly Interface
4. Exploring eBook Recommendations from Samsung Rs20crsv Service Manual Repair Guide
 - Personalized Recommendations
 - Samsung Rs20crsv Service Manual Repair Guide User Reviews and Ratings
 - Samsung Rs20crsv Service Manual Repair Guide and Bestseller Lists

5. Accessing Samsung Rs20crsv Service Manual Repair Guide Free and Paid eBooks
 - Samsung Rs20crsv Service Manual Repair Guide Public Domain eBooks
 - Samsung Rs20crsv Service Manual Repair Guide eBook Subscription Services
 - Samsung Rs20crsv Service Manual Repair Guide Budget-Friendly Options
6. Navigating Samsung Rs20crsv Service Manual Repair Guide eBook Formats
 - ePub, PDF, MOBI, and More
 - Samsung Rs20crsv Service Manual Repair Guide Compatibility with Devices
 - Samsung Rs20crsv Service Manual Repair Guide Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Samsung Rs20crsv Service Manual Repair Guide
 - Highlighting and Note-Taking Samsung Rs20crsv Service Manual Repair Guide
 - Interactive Elements Samsung Rs20crsv Service Manual Repair Guide
8. Staying Engaged with Samsung Rs20crsv Service Manual Repair Guide
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Samsung Rs20crsv Service Manual Repair Guide
9. Balancing eBooks and Physical Books Samsung Rs20crsv Service Manual Repair Guide
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Samsung Rs20crsv Service Manual Repair Guide
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Samsung Rs20crsv Service Manual Repair Guide
 - Setting Reading Goals Samsung Rs20crsv Service Manual Repair Guide
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Samsung Rs20crsv Service Manual Repair Guide
 - Fact-Checking eBook Content of Samsung Rs20crsv Service Manual Repair Guide
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

Samsung Rs20crsv Service Manual Repair Guide Introduction

Samsung Rs20crsv Service Manual Repair Guide Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Samsung Rs20crsv Service Manual Repair Guide Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Samsung Rs20crsv Service Manual Repair Guide : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource for finding various publications. Internet Archive for Samsung Rs20crsv Service Manual Repair Guide : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Samsung Rs20crsv Service Manual Repair Guide Offers a diverse range of free eBooks across various genres. Samsung Rs20crsv Service Manual Repair Guide Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Samsung Rs20crsv Service Manual Repair Guide Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Samsung Rs20crsv Service Manual Repair Guide, especially related to Samsung Rs20crsv Service Manual Repair Guide, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Samsung Rs20crsv Service Manual Repair Guide, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Samsung Rs20crsv Service Manual Repair Guide books or magazines might include. Look for these in online stores or libraries. Remember that while Samsung Rs20crsv Service Manual Repair Guide, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Samsung Rs20crsv Service Manual Repair Guide eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Samsung

Rs20crsv Service Manual Repair Guide full book , it can give you a taste of the authors writing style.Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Samsung Rs20crsv Service Manual Repair Guide eBooks, including some popular titles.

FAQs About Samsung Rs20crsv Service Manual Repair Guide Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Samsung Rs20crsv Service Manual Repair Guide is one of the best book in our library for free trial. We provide copy of Samsung Rs20crsv Service Manual Repair Guide in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Samsung Rs20crsv Service Manual Repair Guide. Where to download Samsung Rs20crsv Service Manual Repair Guide online for free? Are you looking for Samsung Rs20crsv Service Manual Repair Guide PDF? This is definitely going to save you time and cash in something you should think about.

Find Samsung Rs20crsv Service Manual Repair Guide :

service manual for mazda tribute

[service manual mp490](#)

service manual for hatz 2m41z

service manual for scion xa

service manual for polaris sportsman 335

service manual for honda rancher 420

service manual honda crf250r

service manual mercedes c250 td

service manual lumix fx 36

service manual gm 3689

service manual lg lcd tv 32 lb

service manual for vt commodore

service manual for john deere 6600

service manual nissan primera p12 2002 2003 2004 2005 2006 2007 2008 repair manual

service manual jeep cherokee crd

Samsung Rs20crsv Service Manual Repair Guide :

blocs fiches abc bac allemand terminales l es s broché - Aug 15 2023

web blocs fiches abc bac allemand terminales l es s keunebroek noémie amazon fr livres

blocs fiches abc bac allemand terminales l es s pdf veronica - Nov 06 2022

web jun 23 2023 download and install the blocs fiches abc bac allemand terminales l es s pdf it is definitely simple then since currently we extend the associate to purchase and create bargains to download and install blocs fiches abc bac allemand terminales l es s pdf for that reason simple understanding the digital world brian w kernighan 2017

sujets e3c 2021 lva et lvb allemand en classe de terminale au bac - Jan 28 2022

web sujets e3c en 2021 pour lva et lvb allemand classe de terminale cette page rassemble les sujets e3c de l année 2021 pour l épreuve langues vivantes a et b allemand en classe de terminale e3c3 au bac général et technologique les sujets sont classés selon les thèmes et chapitres du programme auxquels ils font référence pour le

blocs fiches abc bac allemand terminales l es s full pdf - Mar 30 2022

web blocs fiches abc bac allemand terminales l es s downloaded from sql1 viewber co uk by guest maren rhys bilingual education in the 21st century walter de gruyter this book is addressed to people with research interests in the nature of mathematical thinking at any level to people with an interest in higher order thinking skills in any domain

blocs fiches abc bac allemand terminales l es s pdf uniport edu - Apr 11 2023

web aug 7 2023 blocs fiches abc bac allemand terminales l es s 2 9 downloaded from uniport edu ng on august 7 2023 by guest using french vocabulary jean h duffy 1999 03 11 providing a structured vocabulary for all levels of undergraduate french courses this text offers coverage of concrete and abstract vocabulary relating to the physical

sections binationales franco allemandes l abibac éducol - Dec 07 2022

web la france l allemagne le monde et la mer 1830 1914 le xix e siècle france et allemagne l entrée en démocratie la

première guerre mondiale et la fin des empires européens 1914 années 1920 pour la classe terminale fragilités des démocraties régimes totalitaires et seconde guerre mondiale 1929 1945 ajouté le 27 07 2023

blocs fiches abc bac allemand terminales l es s uniport edu - Oct 05 2022

web jul 30 2023 blocs fiches abc bac allemand terminales l es s 2 12 downloaded from uniport edu ng on july 30 2023 by guest is equally broad from classic poets and authors to modern children s favourites and from shakespeare to today s journalists each anthology corresponds to a single year of upper primary school 7 11 year

blocs fiches abc bac allemand terminales l es s by noémie - Jun 01 2022

web blocs fiches abc bac allemand terminales l es s by noémie keunebroek annabac sujets brevet et bac de la 3e la tle corrigé sujet bac maths centre étranger 2018 aide en ligne blocs fiches abc bac allemand terminales l es em350862020 adobe acrobat reader dc download adobe acrobat reader dc ebook pdf the best pdf

blocs fiches abc bac allemand terminales l es s pdf uniport edu - Jun 13 2023

web aug 12 2023 blocs fiches abc bac allemand terminales l es s 2 10 downloaded from uniport edu ng on august 12 2023 by guest comprehensive treatment to date of microeconomics the analysis of individual level data on the economic behavior of individuals or firms using regression methods for cross section and panel data the book

blocs fiches abc bac allemand terminales l es s pdf - Jul 14 2023

web may 31 2023 blocs fiches abc bac allemand terminales l es s pdf recognizing the showing off ways to get this book blocs fiches abc bac allemand terminales l es s pdf is additionally useful you have remained in right site to begin getting this info acquire the blocs fiches abc bac allemand terminales l es s pdf connect that we give here

blocs fiches abc bac allemand terminales l es s lms pba - Sep 04 2022

web blocs fiches abc bac allemand terminales l es s lms pba umt l intégralité du livre du professeur les croquis et schémas corrigés géographie terminale l es et s pdf g amp eacute ographie terminale s es l youtube

blocs fiches abc bac allemand terminales l es s by noémie - Feb 26 2022

web may 2nd 2020 blocs fiches abc bac allemand terminales l es yn540732020 adobe acrobat reader dc download adobe acrobat reader dc ebook pdf with online kptm edu my 7 32 acrobat reader dc you can do more than just open and view pdf files its easy to add annotations to documents using a plete set of

blocs fiches abc bac allemand terminales l es s - Dec 27 2021

web blocs fiches abc bac allemand terminales l es s as recognized adventure as skillfully as experience practically lesson amusement as skillfully as accord can be gotten by just checking out a books blocs fiches abc bac allemand terminales l es s afterward it is not directly done you could understand even more in this area this life in this

blocs fiches abc bac allemand terminales l es s download only - Jan 08 2023

web blocs fiches abc bac allemand terminales l es s le nouveau dictionnaire suisse françois allemand et allemande françois etc jun 08 2021 allemand lv1 lv2 séries générales jun 01 2023 allemand 2de 1re tle jan 28 2023 annales allemand lv1 lv2 et lva term toutes séries nov 25 2022 des sujets sur tout le programme

blocs fiches abc bac allemand terminales l es s - May 12 2023

web l un d eux levant il papiers convoquer blocs fiches abc bac allemand terminales l es s près de noémie keunebroek celui là cahier talentueux au directeur de thèse pour actualités connaissance aussi d spécialisation celui là livre pour désign est événement de très près naturel annotation

blocs fiches abc bac allemand terminales l es s pdf 2023 - Mar 10 2023

web apr 8 2023 blocs fiches abc bac allemand terminales l es s pdf blocs fiches abc bac allemand terminales l es s pdf is available in our book collection an online access to it is set as public so you can download it instantly our digital library spans in multiple countries allowing you to get the most less latency time to

blocs fiches abc bac allemand terminales l es s pdf - Aug 03 2022

web oct 2 2022 blocs fiches abc bac allemand terminales l es s 1 6 downloaded from kelliemay com on october 2 2022 by guest blocs fiches abc bac allemand terminales l es s as recognized adventure as well as experience virtually

sujets bac en allemand pour terminale s thèmes tout le - Feb 09 2023

web sujets bac sujet bac amerique en allemand lvb lv2 pour bac s bac es bac l 2019 niveau terminale terminale s terminale es terminale l allemand tout le programme divers n 962 sujets bac sujets bac sujet et corrigé en allemand lva lv1 pour bac s bac es bac l 2019 niveau terminale

download solutions blocs fiches abc bac allemand terminales l es s - Apr 30 2022

web philosophie tle l es s aug 05 2022 une approche progressive et diversifiée des notions du mot au concept pour s interroger sur le sens philosophique de la notion à partir de son sens ordinaire et de son emploi dans le langage courant des pistes de réflexion pour se poser les premières questions que soulève chaque notion

blocs fiches abc bac allemand terminales l es s copy - Jul 02 2022

web jul 18 2023 blocs fiches abc bac allemand terminales l es s 1 9 downloaded from uniport edu ng on july 18 2023 by guest blocs fiches abc bac allemand terminales l es s thank you very much for downloading blocs fiches abc bac allemand terminales l es s most likely you have knowledge that people have look numerous time for

simulation of power line communication using atp emtp and matlab - May 12 2023

web in this paper a simulation test bed for narrowband power line communications plc is demonstrated the method is able to quickly assess the performance of mod simulation of power line communication using atp emtp and matlab ieee conference publication ieee xplore

matlab simulation of line codes and their psd comparison - Apr 30 2022

web jun 28 2015 matlab simulation of line codes and their psd comparison in order to transmit the bits over a physical channel they must be transformed into a physical waveform a line coder or baseband binary transmitter transforms a stream of bits into a physical waveform suitable for transmission over a channel

power lineparam mathworks makers of matlab and simulink - Nov 06 2022

web power lineparam data blk and power lineparam mylinedata blk upload the rlc line parameters in the specified pi section line pi section cable distributed parameters line or three phase pi section line block

does anyone have an idea of how to simulate a power line communication - Jun 13 2023

web the asymmetrical power line communication systems use ofdm physical layer there are many efforts to model the transmitter and the receiver of the sytem using matlab in form of m files or

matlab codes for broadband over power line communication bplc - Jul 14 2023

web apr 30 2021 matlab codes for broadband over power line communication bplc matlab answers matlab central

pdf line code using matlab software researchgate - Dec 27 2021

web jun 3 2021 pdf on jun 3 2021 md humayun kabir published line code using matlab software find read and cite all the research you need on researchgate

master thesis david olalabi akindipo ojelade uio - Aug 03 2022

web 3 3 3 power line communication plc 16 3 4 full fiber technologies 1 2 matlab code for plotting the step size against interference suppression for the various channel types 69 1 3 matlab codes for plotting the interference

simulation of power line communication using atp emtp and matlab - Oct 05 2022

web nov 13 2010 request pdf simulation of power line communication using atp emtp and matlab in this paper a simulation test bed for narrowband power line communications plc is demonstrated

line code demonstration in matlab and python gaussianwaves - Jun 01 2022

web jan 5 2021 line code is the signaling scheme used to represent data on a communication line there are several possible mapping schemes available for this purpose lets understand and demonstrate line code and psd power spectral density in matlab python line codes requirements

line coding schemes file exchange matlab central - Mar 10 2023

web jul 10 2021 line coding schemes version 1 0 0 1 67 kb by jakir hussain g k matlab code for line codes unipolar nrz unipolar rz polar rz and manchester coding 0 0 0 441 downloads updated 10 jul 2021 view license follow

pdf matlab code for non return to zero line coding - Mar 30 2022

web the existing line coding techniques are designed for traditional computing network technology and power spectrum

density to translate data bits into a signal using various line code waveforms the existing line code techniques have multiple kinds of issues such as the utilization of bandwidth connection synchronization cs the direct

matlab codes for power line communication - Feb 26 2022

web matlab codes for power line communication matlab codes for power line communication automotive power line communication a new wiring topology smart grid communications at ut austin contributions power line communication channel modeling for in vehicle alamouti space time code file exchange matlab central

line coding manchester unipolar and polar rz unipolar nrz - Jan 08 2023

web apr 16 2013 signal coding using different line codes manchester unipolar and polar rz unipolar nrz cite as yuriy skalko 2023 line coding manchester unipolar and polar rz unipolar nrz mathworks com matlabcentral fileexchange 41320 line coding manchester unipolar and polar rz unipolar nrz matlab central file

power line communication file exchange matlab central - Aug 15 2023

web jan 16 2011 power line communication version 1 0 0 0 16 6 kb by tran nguyen power line communication with fsk mud demud 5 0

bit error rate performance in power line communication - Sep 04 2022

web in section iv simulations for the ofdm plc are given in matlab 2012a followed by the results conclusions are given in section v ii plc data transmission a plc can be modelled as in fig 1 the model consists of a plc transmitter the plc channel with noise and the receiver block

power line channel in power line communication matlab - Dec 07 2022

web feb 14 2012 power line channel in power line communication learn more about power line communication communication ofdm transfer function

improving data transmission efficiency over power line communication - Jul 02 2022

web transmission behavior of power line channels the model is based on practical measurements of actual power line networks and is given by the channel transfer function 3 where n_p is the number of multipath c_i and d_i are the weighting factor and length of the i th path respectively

the matlab code for the proposed power flow algorithm - Jan 28 2022

web jan 4 2020 this code is able to handle different types of loads such as constant impedance constant current constant complex power and zip mixed of all three at the same bus view full text

need power line communication modelling in simulink matlab - Apr 11 2023

web nov 12 2012 need power line communication modelling in simulink i m studying about the best how to sent data over an ac line first i want to know how channel characteristics are so anyone could tell me how powerline channel like

pdf modeling and analysis of power line communications for - Feb 09 2023

web sep 18 2017 the power line communication plc system is discussed for the smart grid system then new plc system model is created which is used in smart grid communication system is simulated by matlab

giorgio agamben routledge critical thinkers - Mar 09 2023

web giorgio agamben routledge critical thinkers ebook murray alex amazon co uk kindle store

giorgio agamben routledge critical thinkers - Jan 07 2023

web jul 26 2017 giorgio agamben power law and the uses of criticism london routledge 2010 focuses on agamben s treatment of law but useful for those in other

giorgio agamben routledge critical thinkers ebook amazon in - Mar 29 2022

web aug 21 2020 meet the philosopher who is trying to explain the pandemic giorgio agamben criticizes the techno medical despotism of quarantines and closings aug

giorgio agamben routledge critical thinkers - Aug 14 2023

web apr 14 2010 giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his work covers a broad array

giorgio agamben routledge critical thinkers - Aug 02 2022

web amazon in buy giorgio agamben routledge critical thinkers book online at best prices in india on amazon in read giorgio agamben routledge critical thinkers

routledge critical thinkers giorgio agamben alex murray - Feb 25 2022

web top horror novels giorgio agamben routledge critical thinkers alex murray ada cambridge 1 brief reflections relative to the emigrant fr traxie read fighting france

giorgio agamben routledge critical thinkers kağıt kapak - Jun 12 2023

web giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his work covers a broad array of topics from

routledge critical thinkers book series routledge - Apr 10 2023

web apr 14 2010 giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his work covers a broad array

giorgio agamben routledge critical thinkers amazon co uk - Oct 24 2021**key theories of giorgio agamben literary theory and criticism** - Jan 27 2022

web apr 14 2010 buy giorgio agamben routledge critical thinkers by murray alex eaglestone robert isbn 9780415451680

from amazon s book store free uk

giorgio agamben routledge critical thinkers paperback - Apr 29 2022

web mar 7 2018 giorgio agamben b 1942 is a philosopher of italian origin who since the world trade centre attacks in september 2001 has challenged the wide use of

giorgio agamben routledge critical thinkers softcover - Sep 03 2022

web giorgio agamben routledge critical thinkers murray alex isbn 9780415451680 kostenloser versand für alle bücher mit versand und verkauf duch amazon

giorgio agamben routledge critical thinkers 1st edition by - Sep 22 2021

giorgio agamben routledge critical thinkers alex murray - Nov 24 2021

giorgio agamben literary and critical theory oxford - Oct 04 2022

web giorgio agamben routledge critical thinkers murray alex amazon com tr kitap

opinion giorgio agamben the philosopher trying to explain the - Dec 26 2021

web giorgio agamben routledge critical thinkers 1st edition by murray alex 2010 paperback on amazon com free shipping on qualifying offers giorgio agamben

giorgio agamben 1st edition robert eaglestone - May 11 2023

web may 24 2021 giorgio agamben 1st edition by alex murray may 25 2010 giorgio agamben is one of the most important and controversial figures in contemporary

giorgio agamben routledge critical thinkers ebook murray - Dec 06 2022

web giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his work covers a broad array of topics from

giorgio agamben routledge critical thinkers amazon de - May 31 2022

web his work covers a broad array of topics from biblical criticism to guantanamo bay and the war on terror alex murray explains agamben s key ideas including an overview of his

giorgio agamben alex murray google books - Nov 05 2022

web giorgio agamben apr 05 2023 giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his

giorgio agamben routledge critical thinkers amazon co uk - Jul 13 2023

web giorgio agamben routledge critical thinkers murray alex amazon com tr kitap

giorgio agamben routledge critical thinkers ciltli kapak - Jul 01 2022

web giorgio agamben routledge critical thinkers ebook murray alex amazon in kindle store

giorgio agamben routledge critical thinkers mitpressbookstore - Feb 08 2023

web nov 23 2010 giorgio agamben is one of the most important and controversial figures in contemporary continental philosophy and critical theory his work covers a broad array