02.16.98 Tiny connectors SQUEEZE into handheld wireless devices

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performance devices you can carry in your pocket.

efforts in miniaturization, RF performance, contact
manufacturers to invest significant development
screw-machine parts are Beau Interconnect and
prominent producers of these small stamped or
products and neglect the nuts-and-bolts parts that
header after board assembly. The header costs
pushbutton removal of the CompactFlash card
Card standard, including providing 10,000 mating
meets all performance requirements of the PC
mated to the socket in the CompactFlash card,
standard 68-position PC Card header. The header,
Many handheld systems, including some cellular
four-point, heat-treated beryllium-copper contacts
LPS Series provides contact on either 1.27- or 2-
provides board-to-board and cable-to-board
on the stacked pc board.

example is a one-piece compressive stacking
serve as starting points for customization. One
custom developments. Amp, for example, offers a
These products are all standard, off-the-shelf units.
row in three lead styles and two plating options.
headers are available with as many as 50 pins per
can discard after soldering the pins. When mated
plate brings the flex-circuit contacts firmly into
contacts and attaches to a stainless-steel cover
measures 19.5x5 mm with a 2.45-mm profile. The
Thomas & Betts, which the company claims is the
connectors come in tape-and-reel format and cost
many as 50 contacts with a slight compromise in
operation. The 6239 Series is available with as
that allows opening and closing in one simple
connectors specs a height of just 1.5 mm above the
Handheld wireless systems make extensive use of
communications) cellular-phone industry with a
also address the GSM (Global System for Mobile
and tape-and-reel formats. Amphenol and Siemens
with the MMCX (miniature micro coax) interface,
provide low-loss cable-to-board interconnect. The
Miniature coaxial cable offers space-saving

Connecting the coax
tails. Available in tape-and-reel format, the 9158
beryllium-copper contacts with tin-lead solder
mohms contact resistance. They use gold-plated
pitch and four to 40 positions. The connectors spec
9158 Series provides dual-row contacts with 1-mm
that encrypt conversations, store numbers and
to the system. A self-aligning hand tool inserts the
for directly terminating coax to pc boards.
SMT/QuickGrip system provides a low-cost means
interconnect system from
Telecommunications applications. Another
improved intermodulation characteristics in
maintains that the nonmagnetic plating provides
that contains no ferrous materials. The company
uses the company's White Bronze plating system
M/A-Com

cable with a 0.11-in. outside diameter.

Figure 2

tategorie 100 or 200 cables into the
interconnect system from
Radiation Labs a couple of
transmission-line theory, developed largely at the
interconnect, RF transmission, and mixed
(tri “smaller, faster, cheaper” takes on special
interconnect-product manufacturers. The adjective
Handheld wireless devices, such as cellular phones
frequencies.

Date, 1998
Cramped quarters and ultrahigh frequencies in wireless systems make special demands on RF connectors.

Carefully consider the shielding requirements in your design; for intercircuit connections, using miniature coax is often better than using microstrip pc-board patterns.

In specifying custom interconnects, you can often use manufacturers' catalog parts as a starting point.