

Power & Telecom

Prefabricated Branch Cable Receives Contribution Award (ECO-VC Award)



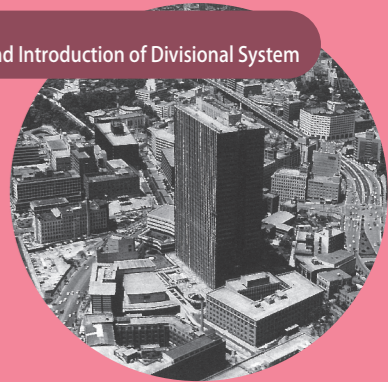
FUJIKURANEWS 2020.11 No.471

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2020 No.471

Fujikura Modern history -7
Technological Development and Introduction of Divisional System

Fujikura's newly developed aluminum pipe buses were employed as the trunk line of Japan's first skyscraper, Kasumigaseki Building, completed in 1968. In addition, the headquarters functions including the sales and administration departments moved into the building to build better public relations. Cables including TL trough, which was used in the Tokyo Electric Power Company's submarine cable installed between Atami and Hatsushima, and the dislocated composite paper-covered cables contributed to modernizing electric power distribution. With great business results, the company shifted to a system consisting of power, telecommunication, and cable divisions, each of which contains sales, technology and manufacturing sections.



Panoramic view of Kasumigaseki Building

Nishi Nippon Electric Wire and Cable Co., Ltd.'s prefabricated (fabricated at factory before shipping) branch cables that have been manufactured and sold for 50 years for building and apartment use. The cables have been used by Panasonic Homes Co., Ltd. and received a Contribution Award (ECO-VC Award) from the company.

The prefabricated branch cables are to be employed in multilayer houses of the housemaker and some of them have already been delivered. In the traditional installation method, an individual cable was installed into the smart meter of each household from the service entrance switch. On the other hand, the prefabricated branch cable for multi-story houses is made into one-piece product at the factory by adding processing such as branching in cables from the service entrance switch to each smart meter.

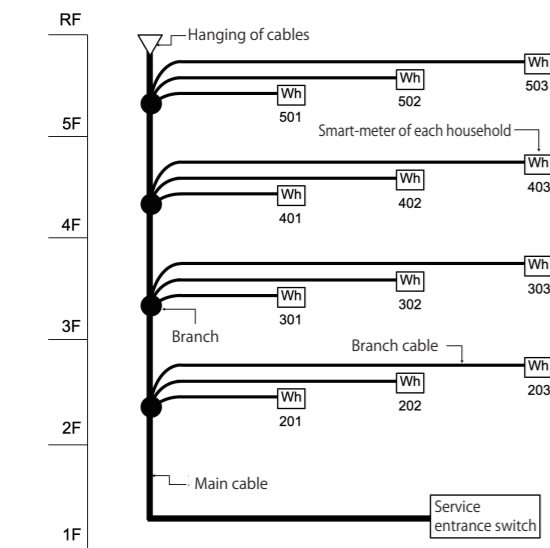
Moreover, using the know-how of installing cables inside houses nurtured during designing and manufacturing prefab products for building and apartments, Nishi Nippon Electric Wire and Cable will take over the wiring design from

a design office. This will allow the company to provide with the design of cable wiring to designing and manufacturing of prefab branch cables as a whole according to the specifications of each multi-story structure. The prefab branch cables for multi-story housing has advantages over the traditional method:

1. Reduction in material costs and environmental loads
2. Uniformity of quality
3. Reduced labor Labor-saving in the field
4. Elimination of work in unsecure footings

The award has been granted because Panasonic Homes recognized the effect of the prefab branch cable for multi-story houses on the economy and reduction in environmental loads.

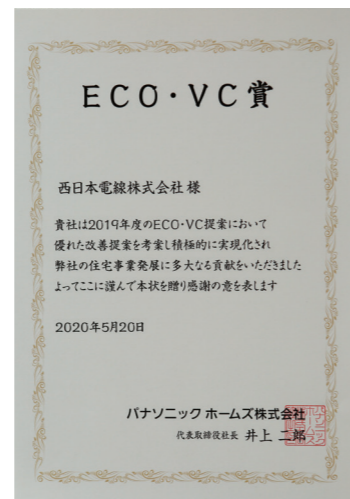
In the future, it is expected that shortages in labor in line with the decreasing number of children and increasing number of the elderly would become an even more serious social problem. So we will focus on the development of labor-saving products that matches customer needs.



● System diagram



● Branch



● Testimonial

Inquiries to Nishi Nippon Electric Wire and Cable <http://www.nnd.co.jp/contact>

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Fujikura enters 5G mmWave infrastructure market with the introduction of industry's highest performance, and low power consumption Phased Array Antenna Module (PAAM)

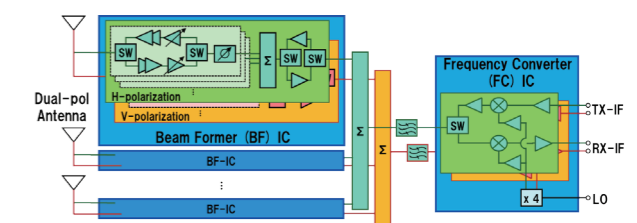


Fujikura Ltd. (President & CEO: Masahiko Ito) today announced the introduction of industry's most advanced and highly integrated Phased Array Antenna Module (PAAM) for 5G mmWave operating in 3GPP bands n257 (28 GHz), n258 (26 GHz) and n261 (27 GHz). The Fujikura PAAM is the industry's highest performance PAAM targeting indoor and outdoor applications such as 5G mmWave Fixed Wireless Access (FWA), 5G mmWave Mobile Wireless Access (MWA), 5G mmWave wireless backhaul, and other emerging applications.

The Fujikura PAAM is a high performance phased array antenna module with a novel integrated antenna, and supports concurrent dual polarized beams in both transmission and reception (Fig.1). The PAAM integrates best-in-class mmWave-ICs developed in-house using an industry leading SiGe BiCMOS process. The PAAM features extremely low noise figure (NF) characteristics and enables a large link margin for expanded coverage. Tunable true-time-delay-type phase shifters support precise and independent phase and amplitude control over a wide frequency range. The unique phase shifter not only enables simple beam-steering control which allows accurate beam steering with fine resolution, but also allows calibration-free operation making PAAM installation much easier. The phase

shifter also maintains the transmitted or received signals undistorted by providing invariant group delay and unchanged beam direction in a wide frequency range. In addition, Fujikura PAAM provides superior digital reconfigurability allowing flexible choices in the trade-off space between NF and linearity --- this enables a wide range of coverage applications simply through digital reconfiguration of the PAAM, and on-chip support for 1000s of beam configurations. These are exactly the features highly desired by 5G wireless equipment manufacturers. Currently, 5G deployments are accelerating around the world and mmWave bands are expected to play a significant role in enhancing the network capabilities. According to the Global mobile Suppliers Association (GSA), by the end of August, 2020, 397 operators in 129 countries and territories had announced investments in 5G. The deployment of 5G mmWave has started primarily in the US market for FWA and MWA, and we are now in the early stages. Markets are expecting substantial increase in 5G mmWave use cases including both outdoor and indoor deployments around the world. Fujikura will contribute to this market growth and benefit from it by providing 5G mmWave infrastructure customers with best-in-class PAAM products.

"Fujikura is announcing its first 5G mmWave RF-IC products for mobile infrastructure. Fujikura n257/n258/n261 PAAM products leverage field proven 5G mmWave IC and antenna in package technologies developed at IBM Research and enhanced by a Fujikura-led Joint Development Program. Leveraging our expertise in antenna design and substrate technologies as well as our long history and expertise in delivering differentiating products to the telecom industry, we are excited to introduce our new PAAM product family," said Kenji Nishide, Fujikura R&D Managing Executive Officer. "Fujikura's PAAM sets new benchmarks in terms of performance and low power consumption with the highest level of integration for 5G mmWave RF-ICs, which will contribute to growth and expansion of 5G mmWave networks and services."



● Fig.1 Block diagram of Fujikura PAAM.

URL <https://mmwavetech.fujikura.jp/#area-28ghz-module>

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Release of One-Click® Cleaner HOC, Cleaning Tool for Hardened Fiber Optic Connector



Fujikura has started sales of a cleaning tool for waterproof connector Hardened Fiber Optic Connector, One-Click® Cleaner HOC (hardened optical connector). This product offers improved workability compared to that of our existing optical connector cleaner and can clean the end faces of standard SC connectors and our Hardened Fiber Optic Connector (TRIDENT®, TITAN RTD®) as well. In addition, the existing product has required attaching or detaching a dedicated guiding cap at the head of the tool according to the object to be cleaned. When a connector plug is cleaned,

the guiding cap needs to be attached and when an adapter, the cap detached. The guiding structure incorporated in the head of the new product allows the cleaning of end faces of both the connector plug and adapter.

This new function has eliminated the inconvenience of attaching or detaching of the guiding cap and improved workability. The guiding function will be introduced into One-Click® Cleaner, which has already been released. We will continue to develop various cleaning products with the aim of improving workability and meeting customer needs.

● One-Click® Cleaner HOC



Product name	One-Click® Cleaner HOC
Size (mm)	166.5 (L) × 17.5 (H) × 17.5 (W)
Max. No. of cleaning	500 times
Application	<ul style="list-style-type: none"> •Fujikura waterproof connector (TRIDENT®, TITAN RTD®) •SC connector

● Instructions

	One-Click® Cleaner HOC	Our existing product(Current product)
Plug Side	 No need to attach/detach guiding cap	 Cleaning connector after attaching/detaching guiding cap
Adapter Side	 No need to attach/detach guiding cap	 Cleaning connector after attaching/detaching guiding cap

See URL below for the lineup of cleaners dedicated to each connector.
<http://www.oneclickcleaner.com/>

*One-Click® is a Registered Trademark of Fujikura Ltd. TRIDENT®, TITAN RTD® are Registered Trademark of AFL

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Development of FuseConnect® MPO Connector with Thermo-shrinkable Reinforcing Sleeve



Fujikura has developed a FuseConnect®MPO connector with a heat-shrinkable reinforcing sleeve in addition to a FuseConnect®MPO connector with a mechanical fusion splice reinforcing component. The heat-shrinkable reinforcing sleeve-type FuseConnect®MPO connector can be attached to a ribbonized optical fiber, optical fiber ribbon, and Spider Web Ribbon (SWR) fiber, offering workability similar to that of fusion splicing of ordinary optical fibers. In addition, the use of a fiber arrangement tool (RT-02) has significantly reduced the processing time needed to arrange single-core fibers and further improved the workability.

Today, the use of Cloud computing and introduction of high-speed high-capacity communication services such as 5G have accelerated. Consequently, FuseConnect®MPO

connectors are used worldwide for fiber-optic interconnections including connections between and within devices and between transceivers. That is because this connector can be readily attached to the terminal of an optical fiber in the field and also connected to a multi-core fiber with high density at once. The product that provides favorable characteristics, easy installation, and high multiplicity of uses is expected to be used in different places in networks.



● FuseConnect®MPO

● RT-02

Features of heat-shrinkable reinforcing sleeve-type	
<ul style="list-style-type: none"> ● Same workability as ordinary fiber-optic fusion splicing ● Work can be completed on fusion splicer without additional tools ● Compatible with various fiber interfaces 	
Mechanical fusion splice reinforcing component-type	Heat-shrinkable reinforcing sleeve-type
 Fixed by being sandwiched between reinforcing components	 Fixed by heat-shrinking the reinforcing sleeve

Items	Specifications			
Variety of connectors	SM	Low Loss SM	MM62.5	MM OM4
Maximum splicing loss	0.65dB	0.35dB	0.35dB	0.35dB
Connector interface	12-fiber, compliant with IEC61754-7			
Compatible fiber interface	Single-core fiber, Optical fiber ribbon Spider Web Ribbon (SWR) fiber			
Compliant Standard	Telcordia1435 CORE102			

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Exhibition

BICSI* JAPAN District Conference & Exhibition



An international education organization for network engineers, BICSI Japan holds 2020 BICSI JAPAN DISTRICT Exhibition and Conference on November 25 (Wed.) and 26 (Thu.). We will exhibit and display Fujikura's optical products for data center.

This year, BICSI is using the latest technology to bring you the best information and communications technology (ICT) education and innovation that the industry has to offer. In this event, we offer an intuitive virtual experience to attendees and exhibitors alike, along with highlights including interactive features, audio and video chat and much more.

BICSI's activity is aimed at helping engineers of network design and installation improve their techniques, and Fujikura has expressed approval to and supported the activity for some time. We will continue to contribute to securely installing even better quality products by designing correct wiring of networks to support ICT society, which is advancing further. We look forward to welcoming you there.



2020 BICSI Japan District Conference & Exhibition
 Dates: November 25 (Wed.)-26 (Thu.) 2020
 (Streaming until Wednesday 16 December 2020)

● Website URL: <https://www.bicsi.jp/conference/2020.php>

*BICSI (the Building Industry Consulting Service International): Established in 1974 as a non-profit association of telecommunications professionals. BICSI is a professional association supporting the advancement of the information and communications technology (ICT) profession and currently serves more than 26,000 members and credential holders. BICSI is the preeminent resource for the Connected World. Headquartered in Tampa, Florida, USA, BICSI membership spans nearly 100 countries.

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